

Geometry 10.1 Notes: Tangents to Circles (pp 595-598)

Chord:

Secant:

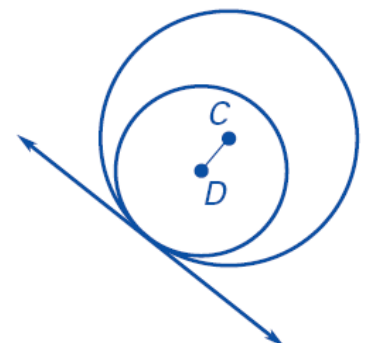
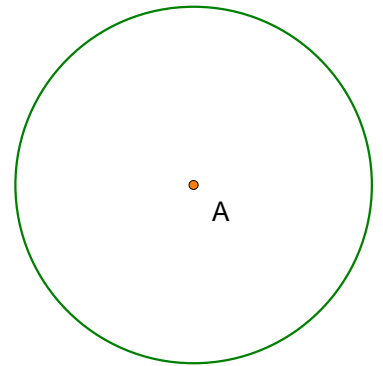
Tangent:

Concentric Circles:

Common Tangent circles:

Common Internally Tangent Circles:

Common Externally Tangent Circles:



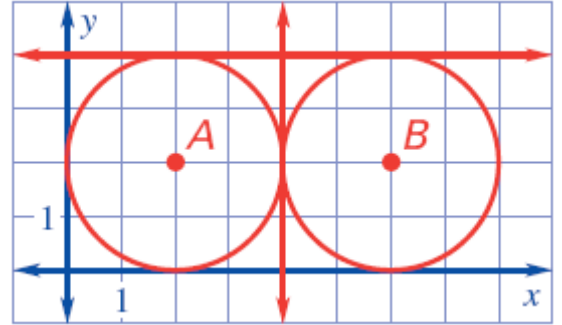
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Examples.

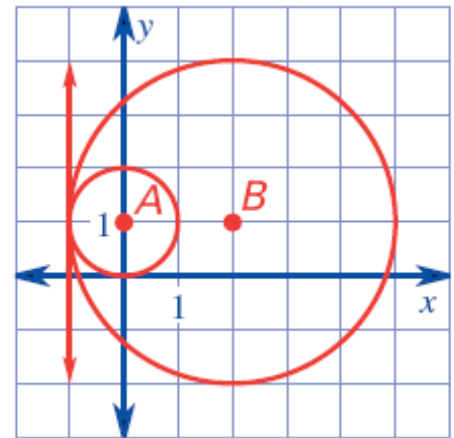
1. Tell whether the common tangent is *internal* or *external*.

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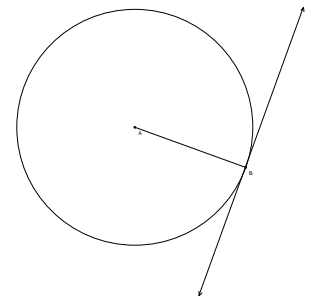
2. Give the center and radius of each circle. Describe the intersection of the two circles and describe all common tangents.



3. **Guided Practice:** Give the center and radius of each circle. Describe all common tangents.

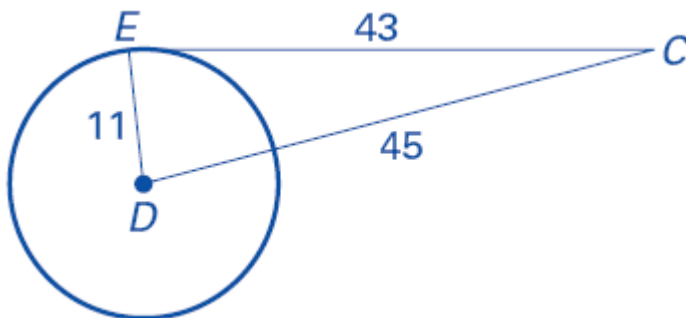


Tangent-radius relationship



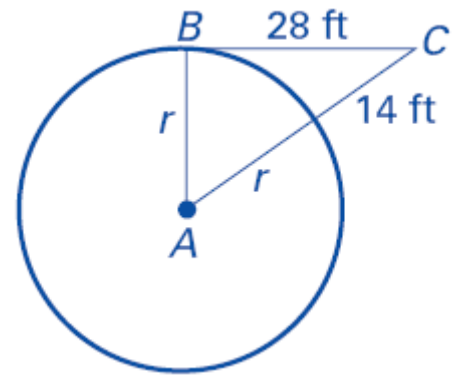
Examples.

4. Is \overline{CE} tangent to $\odot D$? Explain.

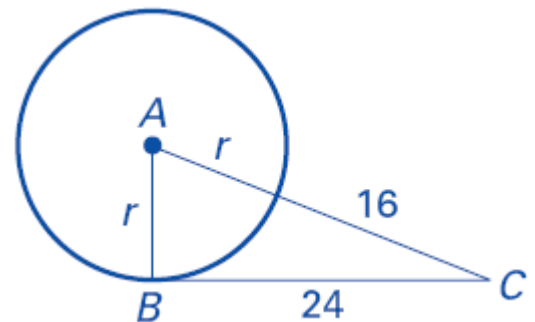


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5. You are standing 14 feet from a water tower. The distance from you to a point of tangency on the tower is 28 feet. What is the radius of the water tower?



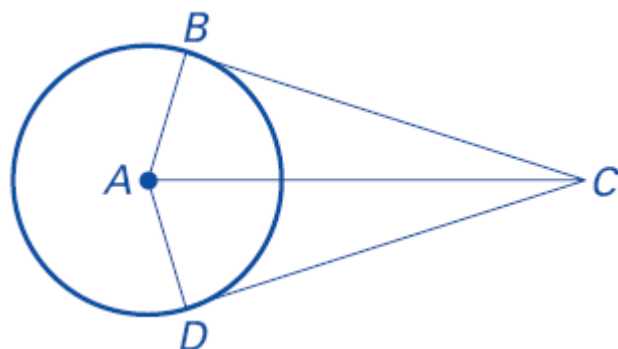
6. **Guided Practice:** \overline{BC} is tangent to $\odot A$. Find the radius of the circle.



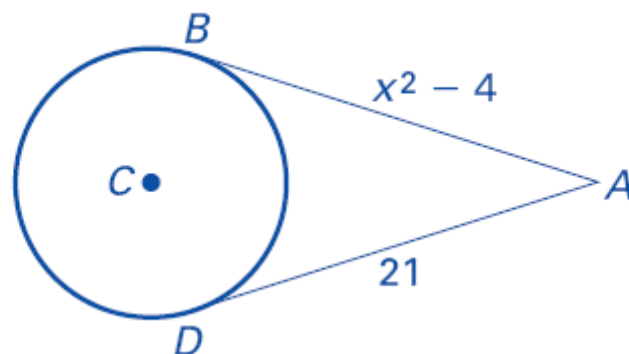
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Segments that are tangent from the same point.

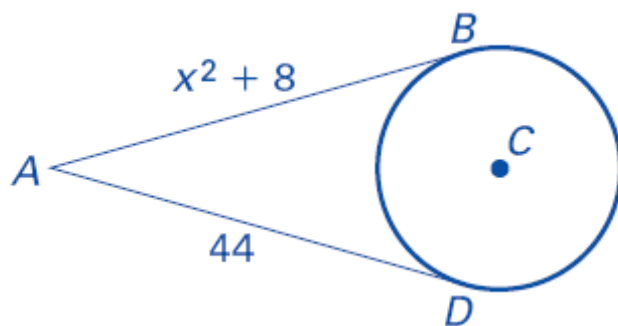


7. **Example:** \overline{AB} is tangent to $\odot C$ at B. \overline{AD} is tangent to $\odot C$ at D. Find the value of x .



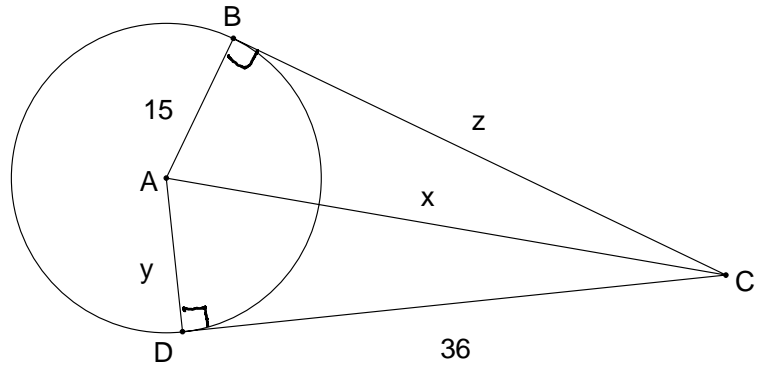
Guidede Practice.

8. \overline{AB} is tangent to $\odot C$ at B. \overline{AD} is tangent to $\odot C$ at D. Find the value of x .



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9. Find the values of x , y , and z in the diagram.



10. How are chords and secants of circles alike? How are they different?

11. \overline{XY} is tangent to $\odot C$ at point P . What is $m\angle CPX$? Explain.

